



Dart Aerospace Ltd.
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D350-748-143TRN
Job Sheet 191082



Part No: D350-748-143TRN

Job Qty: 1 pcs

Part Name: Ss Crosstube Turning Detail



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/21/19

Job Tracking No:

Due Date: 4/12/19

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV A IPP REV.A NEW ISSUE - LL 12.05.08

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		DAS	Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time		
100	Mori Seiki TL-40 - 1	1 pcs	4/12/19	4/12/19	7.06	2.81	Mori Seiki TL-40 - 1		66	2019-06-06
110	QC 2	1 pcs	4/12/19	4/12/19	0.00	0.00	QC 2 - 1		9-89	
							QC 2 - 12			
							QC 2 - 14			
							QC 2 - 17			
							QC 2 - 19			
							QC 2 - 2			
							QC 2 - 20			
							QC 2 - 22			
							QC 2 - 23			
							QC 2 - 25			
							QC 2 - 32			
							QC 2 - 33			
							QC 2 - 35			
							QC 2 - 39			
							QC 2 - 4			
							QC 2 - 40			
							QC 2 - 44			
							QC 2 - 45			
							QC 2 - 48			
							QC 2 - 49			
							QC 2 - 50			
							QC 2 - 51			
							QC 2 - 52			
							QC 2 - 54			
							QC 2 - 56			
							QC 2 - 57			
							QC 2 - 62			
							QC 2 - 63			
							QC 2 - 8		DAS	
							QC 2 - 66		66	2019-06-06
									9-89	

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				QC 2 - 64	DAS	
120	Mori Seiki TL-40 - 1 - B4B	1 pcs	4/12/19	0.00 2.81	Mori Seiki TL-40 - 1 - B4B	66 2019-06-11
130	QC 2	1 pcs	4/12/19	0.00 0.00	QC 2 - 1	9-89
				QC 2 - 12		
				QC 2 - 14		
				QC 2 - 17		
				QC 2 - 19		
				QC 2 - 2		
				QC 2 - 20		
				QC 2 - 22		
				QC 2 - 23		
				QC 2 - 25		
				QC 2 - 32		
				QC 2 - 33		
				QC 2 - 35		
				QC 2 - 39		
				QC 2 - 4		
				QC 2 - 40		
				QC 2 - 44		
				QC 2 - 45		
				QC 2 - 48		
				QC 2 - 49		
				QC 2 - 50		
				QC 2 - 51		
				QC 2 - 52		
				QC 2 - 54		
				QC 2 - 56		
				QC 2 - 57		
				QC 2 - 62		
				QC 2 - 63		
				QC 2 - 8	DAS	
				QC 2 - 66	66 2019-06-11	
				QC 2 - 64	9-89	
140	QC 8	1 pcs	4/12/19	0.00 0.00	QC 8 - 12	
				QC 8 - 14		
				QC 8 - 17		
				QC 8 - 20		
				QC 8 - 25		
				QC 8 - 3		
				QC 8 - 32		
				QC 8 - 33		
				QC 8 - 35		
				QC 8 - 39		
				QC 8 - 4		
				QC 8 - 44		
				QC 8 - 45		
				QC 8 - 49		
				QC 8 - 58		
				QC 8 - 8		
				QC 8 - 9		
				QC 8 - 68	DAS	
				QC 8 - 67	67 19-06-12	
				QC 8 - 1 (A)	9-89	
				QC 8 - 47		
150	Crosstubes - 2 - B4B	1 pcs	4/12/19	0.00 0.97	Crosstubes - 1 - B4B	
				Crosstubes - 2 - B4B		
				Crosstubes - 3 - B4B		
				Crosstubes - 4 - B4B		
190	Packaging 3-1 - Stock - B4B	1 pcs	4/12/19	0.00 0.00	Packaging 3 - 1 - B4B	
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				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
200	QC 21 - SA	1 pcs	4/12/19	0.00 0.00	QC 21 - SA - 21
					QC 21 - SA - 70
					QC 21 - SA - 53

Part Op 100 - (Mori Seiki CNC Lathe Large) 1-Cut tube on chop saw, leave extra mat'l for facing and install plugs 350-141 on both
 Descriptions: ends. 2-Face both sides of tube. 3- Turn program 02000 section on both side as per folio FB467. 4- Turn program 03000
 section on both side as per folio FB467. 5- Blend transition lines only with belt sander 60 grit Folio rev: A

Dwg rev: A

110 - (QC2- Inspect parts off machine FAI/FAIB)

120 - (Mori Seiki CNC Lathe Large) 1- Turn program 04000 section on both side as per folio FB467. 2- Blend transition
 lines only with belt sander 60 grit 3- Scribe part # as per Dwg D350-748-143 Folio rev: A Dwg

rev: A

130 - (QC2- Inspect parts off machine FAI/FAIB) PERFORME ULTRASONIC MEASUREMENT

140 - (QC8- Inspect parts - second check)

150 - (Crosstubes) 1-Grind machining marks

190 - (Identify as per dwg & Stock Location: _____) Identify and stock in kanban rack

200 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6021-125	Crosstube Material - 17-4Ph SS	1 pcs (1 ea)	100-Mori Seiki TL-40 - 1	E151691

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Mori Seiki TL-40 - 1	D6021-125	1	47	0

Part Specifications

Specifications could not be found.

**Container No: S188375****Part: D350-748-143TRN****Job No: 191082****Serial No/Batch: S188375****Revision: A****Inspector:****Exp Date:****Instructions:**

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Date: 06/06/19

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DART AEROSPACE LTD	Work Order:	191082
Description: Crosstube Assembly (AS350/355 High Fwd SS)	Part Number:	D350-748-143
Inspection Dwg: D350-748-143 Rev: A		Page 1 of 2

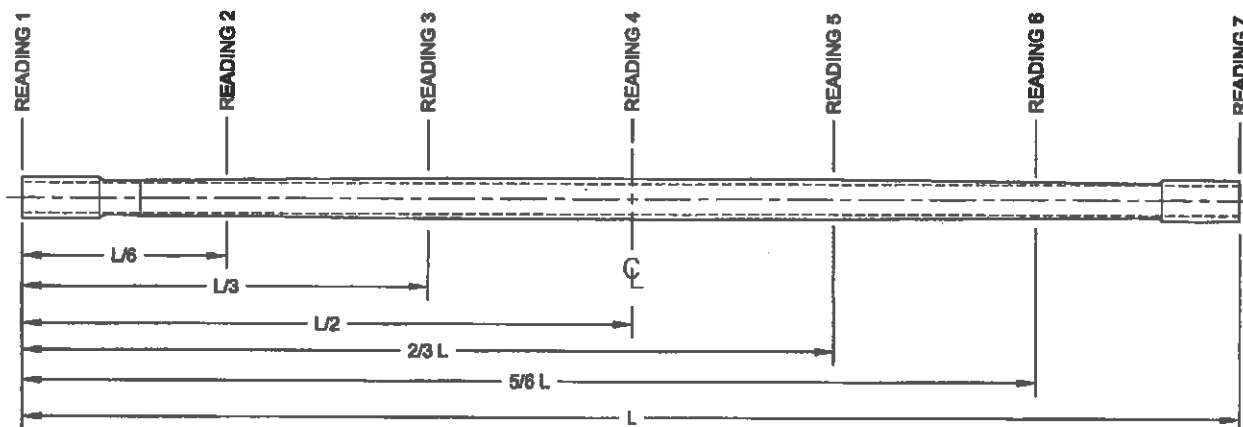
FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+/-0.005	2.241	✓		CNC-04	
	2.180	+0.005/-0.000	2.185	✓			
	2.180	+0.005/-0.000	2.185	✓			
	2.237	+0.005/-0.000	2.242	✓			
	2.272	+0.005/-0.000	2.277	✓			
	2.306	+0.005/-0.000	2.311	✓			
	2.339	+0.007/-0.000	2.345	✓			
	2.339	+0.007/-0.000	2.346	✓			
	0.062	+/-0.010	.062	✓		CNC-08	
	5.25	+/-0.060	5.256	✓		"	
	R0.063	+/-0.010	.063	✓		RG	
	R0.50	+/-0.030	.500	✓		"	
SIDE B	2.240	+/-0.005	2.241	✓		CNC-04	
	2.180	+0.005/-0.000	2.185	✓			
	2.180	+0.005/-0.000	2.185	✓			
	2.237	+0.005/-0.000	2.242	✓			
	2.272	+0.005/-0.000	2.277	✓			
	2.306	+0.005/-0.000	2.311	✓			
	2.339	+0.007/-0.000	2.346	✓			
	2.339	+0.007/-0.000	2.346	✓			
	0.062	+/-0.010	.062	✓		CNC-08	
	5.25	+/-0.060	5.253	✓		"	
	R0.063	+/-0.010	.063	✓		RG	
	R0.50	+/-0.030	.500	✓		"	
	112.27	+/-0.060	112.27	✓		Tape	

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DART AEROSPACE LTD	Work Order:	191082
Description: Crosstube Assembly (AS350/355 High Fwd SS)	Part Number:	D350-748-143
Inspection Dwg: D350-748-143 Rev: A		Page 2 of 2

WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation Δw (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L= 0"	.141	.140	.142	.141	.002	0.030"
READING 2 L= 18.71	.146	.149	.151	.147	.005	
READING 3 L= 37.42	.196	.195	.200	.204	.009	
READING 4 L= 56.14	.195	.192	.199	.204	.012	
READING 5 L= 74.85	.191	.192	.200	.207	.016	
READING 6 L= 93.56	.143	.143	.150	.153	.010	
READING 7 L= 112.27	.141	.141	.145	.145	.004	

Calibration Result

Actual Block Thickness: 100-200

Sitiescan 250 Measured Thickness: 100-200

Measured by:	DAS 66 9-89
Date:	2019-06-11

Audited by:	DAS 67 9-89
Date:	19-06-12

Preliminary Approval:	
Date:	

Rev	Date	Change	Revised by	Approved
A	15.09.09	New Issue (P/O D350-748-103)	KJ	

Item	Qty	Part Number	Description
	-143		
	X	D350-748-143	CROSSTUBE ASSEMBLY (AS 350365 HI FWD)
1	1	D3021-125	CROSSTUBE
2	2	D3502-1	SUPPORT
3	2	D3123-7	CLAMP CUSHION
4	1	AETC-1032	INSERT
5	2	MS21920-20 OR MS21920-21-22	CLAMP (PER DART SPEC. MMS21920-20-21-22)
6	1	WASHER (OR AN600C10)	
7	1	NAS1635-3-8	SCREW (OR MS51838-63)
8	AVR	PROSEAL 800 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D3021-125 (17-4PH)
- 2) FINISH: FINISHED LENGTH AFTER TURNING = 112.27±0.06 (AFTER BENDING/TRIMMING = 110.27 REF)
- 3) TOLERANCE: PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
PER DART QSI 018 UNLESS OTHERWISE NOTED.
WALL THICKNESS ECCENTRICITY PER DART QSI 038 7.2
MIN. ALLOWABLE WALL IS -0.020 FROM NOMINAL
UNITS: INCHES UNLESS OTHERWISE NOTED.
- 4) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 5) IDENTIFICATION: DART PART NUMBER "D350-748-143" AND BATCH NUMBER ON INSIDE OF CUFF
- 6) WEIGHT: 30.45 lbs
- 7) PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.290 HOLE.
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE BLEND OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.
- 9) TURNING
10) BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- 11) BENDING
12) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES PER SIDE. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 0% BASED ON O.D. ON TOP HALF OF BEND, AND 0% ON BOTTOM HALF OF BEND.
- 13) MAX AMPLITUDE OF RIPPING ALONG BENT PORTION OF THE TUBE IS 0.030 (2N A1-3)
MAY BE NO LARGER THAN 0.38 (2N C1-3).
- 14) ASSEMBLY
15) TO INSTALL D3021-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.02" TO 0.05" THICK LAYER OF PROSEAL 800 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
16) TORQUE CLAMPS 80 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 800 SEALANT HAS CURED FOR 72 HOURS.

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NO. 19082M5

19082M5

UNDER REVIEW
DATE 15/11/24
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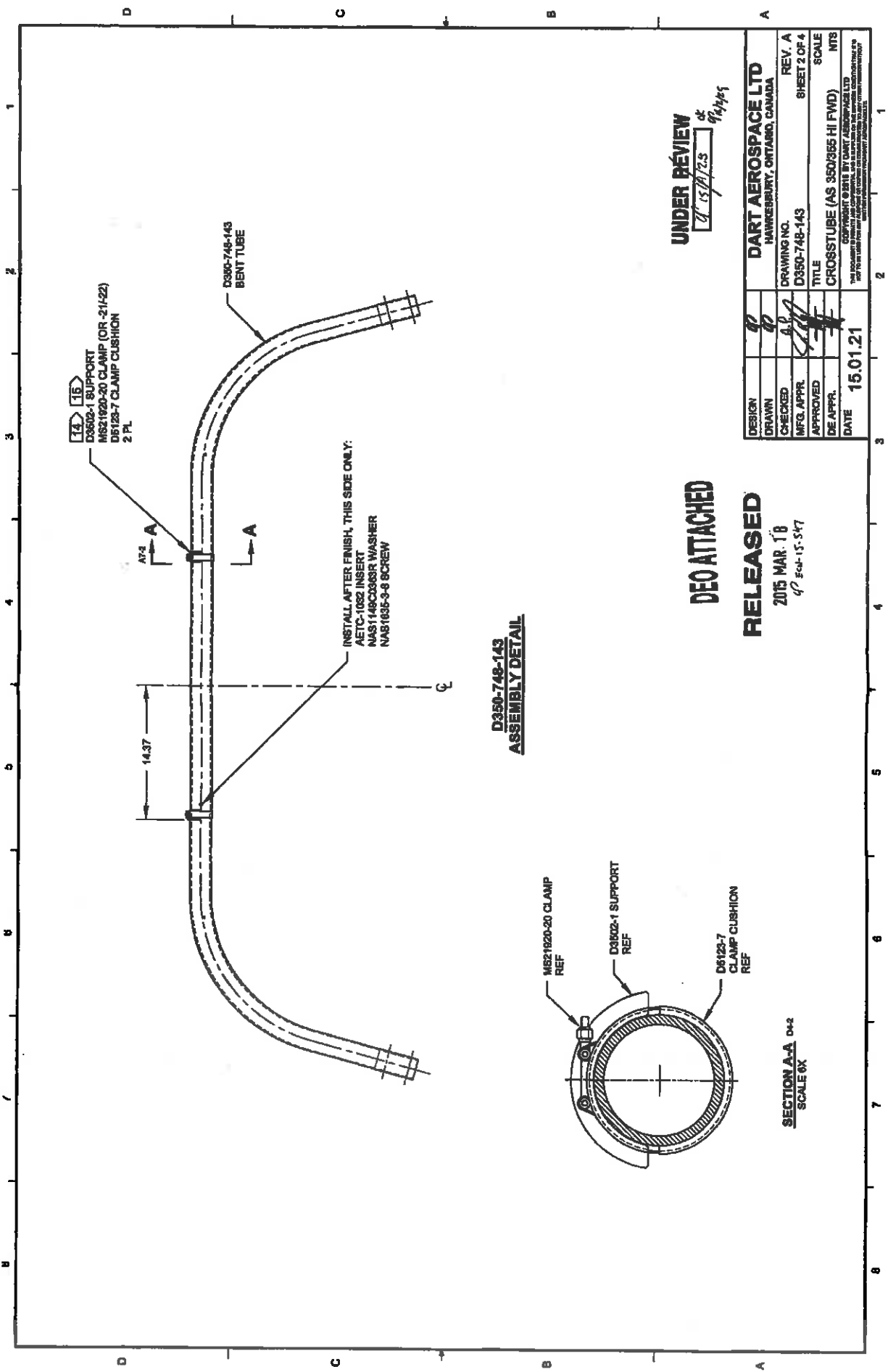
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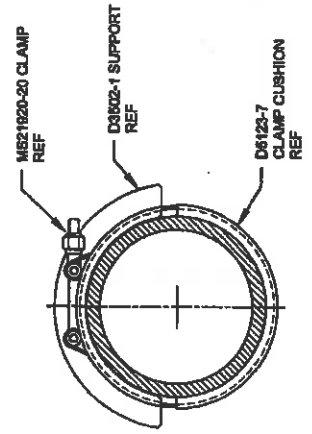
2015 MAR 18
504 15-547

REV. A	NEW ISSUE	DESCRIPTION	CP	BY	DATE
DESIGN					
DRAWN					
CHECKED					
MFG. APPR.					
APPROVED					
DE APPR.					
DATE	15.01.21				

DART AEROSPACE LTD HAMMERSBURY, ONTARIO, CANADA	
DRAWING NO.	D350-748-143
REV. A	SHEET 1 OF 4
TITLE	CROSSTUBE (AS 350365 HI FWD)
SCALE	NTS
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**D350-748-143
ASSEMBLY DETAIL**



SECTION A-A
SCALE 8X

UNDER REVIEW
4/15/73
4/4/79

DEO ATTACHED

RELEASED

2015 MAR 18
47 ECU-15-S47

DESIGN	00	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. A	
DRAWN	00			8 SHEET 2 OF 4
CHECKED	00			
MFG. APPR.	00			
APPROVED	00			
DATE	15.01.21	DRAWING NO. D350-748-143	SCALE NTS	
		TITLE CROSS TUBE (AS 350/355 HI FWD)	COPYRIGHT © 2015 BY DART AEROSPACE LTD	
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DRAWING NO. D350-748-143	TITLE CROSSTUBE	REV. A	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D350-748-143-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN qp	CHECKED ASS		MFG. APPR. [Signature]	APPROVED [Signature]		DE APPR. [Signature]	
DATE 15.11.18	DATE 15.11.18		DATE 16.02.19	DATE FEB 19 2016		DATE 2016.02.19	

AMEND NOTE 2 (SHEET 1) AS FOLLOWS:

2) FINISH: PREPARE SURFACE PER DART QSI 005 4.1.4
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2

OR

POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3

RELEASED
2016-02-26
EN 16-534

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